Docket No.

251811US2/ams

IN THE CONTED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Takeshi NANJYO, et al.

SERIAL NO: 10/822,816

GAU:

FILED:

EXAMINER:

FOR:

April 13, 2004

OPTICAL DEFLECTION APPARATUS AND MANUFACTURING METHOD THEREOF, OPTICAL DEFLECTION ARRAY, IMAGING APPARATUS, AND IMAGE PROJECTION DISPLAY APPARATUS

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- □ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number <u>15-0030</u>. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, P.C.

Marvin J. Spivak

Registration No. 24,913

Joseph A. Scafetta, Jr. Registration No. 26, 803

Customer Number

22850

Tel. (703) 413-3000 Fax. (703) 413-2220 (OSMMN 05/03) Docket No.

251811US2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Takeshi NANJYO, et al.

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Respectfully submitted,

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Joseph A. Scafetta, Jr. Registration No. 26, 803

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STATEMENT OF RELEVANCY

References AL, AN, and AP through AY on Form PTO-1449 are discussed in the specification.

Reference AZ on Form PTO-1449:

This reference introduces the concepts of reference AX.

LIST OF RELATED CASES

| / | | | |
|---------------------------------|-------------------------|-------------------------|---------------------|
| Docket Number | Serial or Patent Number | Filing or Issue Date | Inventor/ Applicant |
| PER CLIENT | 6,467,881 | 10/22/02 | KATOH |
| PER CLIENT | 6,485,126 | 11/26/02 | KATO et al. |
| PER CLIENT | 6,367,914 | 04/09/02 | OHTAKA et al. |
| PER CLIENT | 6,312,108 | 11/06/01 | KATO |
| PER CLIENT | 6,332,669 | 12/25/01 | KATO et al. |
| PER CLIENT | 6,450,618 | 09/17/02 | KATO et al. |
| PER CLIENT | 6,150,698 | 11/21/00 | OHTSUKA et al. |
| PER CLIENT | 5,633,523 | 05/27/97 | KATO |
| PER CLIENT | 5,811,353 | 09/22/98 | NANJO |
| PER CLIENT | 5,668,413 | 09/16/97 | NANJO |
| PER CLIENT | 5,304,357 | 04/19/94 | SATO et al. |
| PER CLIENT | 5,108,843 | 04/28/92 | OHTAKA et al. |
| 0557-0915-0X FWC I [#] | 08/006,147 | 01/19/93 | HANG et al. |
| 0557-0915-0X FWC# | 07/630,779 | 12/21/90 | UNKNOWN |
| 0557-0915-0X [#] | 07/234,672 | 08/22/88 | UNKNOWN |
| 0557-2105-2X | 5,017,987 | 05/21/91 | NANJOH et al. |
| 0557-2968-2X FWC | 5,448,113 | 09/05/95 | SUZUKI et al. |
| 0557-2968-2X [#] | 08/027,985 | 03/08/93 | UNKNOWN |
| 0557-3044-2X | 5,408,113 | 04/18/95 | KANNO et al. |
| 0557-4388-2 | 6,324,149 | 11/27/01 | MIFUNE et al. |

^{*}Present Application; listed for information
Abandoned Application

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| 216209US2 | 6,636,368 | 10/21/03 | OHTAKA |
|----------------|------------|----------|---------------|
| 218290US2 | 10/050,865 | 01/18/02 | OHTAKA et al. |
| 230540US2 | 10/294,033 | 11/14/02 | NANJYO et al. |
| 237615US2 CONT | 6,710,949 | 03/23/04 | OHTAKA |
| 238393US2 | 10/449,115 | 06/02/03 | OHTAKA et al. |
| 251811US2* | 10/822,816 | 04/13/04 | NANJYO et al. |

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| , ne' | | | | U.S. PATENT DOCUMENTS | | | | | |
| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB CLASS | | ING DATE PROPRIATE | |
| | AA | 6,467,881 | 10/22/02 | КАТОН | | | | | |
| | AB | 6,485,126 | 11/26/02 | KATO et al. | | | | | |
| | AC | 6,367,914 | 04/09/02 | OHTAKA et al. | | | | | |
| | AD | 6,312,108 | 11/06/01 | KATO | | | | | |
| | AE | 6,332,669 | 12/25/01 | KATO et al. | | | | | |
| | AF | 6,450,618 | 09/17/02 | KATO et al. | | | | | |
| | AG | 6,150,698 | 11/21/00 | OHTSUKA et al. | | | | | |
| | АН | 5,633,523 | 05/27/97 | KATO | | | | | |
| | ΑI | 5,811,353 | 09/22/98 | NANJO | | | | | |
| | AJ | 5,668,413 | 09/16/97 | NANJO | | | | | |
| | AK | 5,304,357 | 04/19/94 | SATO et al. | | | | | |
| | AL | 5,108,843 | 04/28/92 | OHTAKA et al. | | | | | |
| | AM | 5,017,987 | 05/21/91 | NANJOH et al. | | | | | |
| | AN | 5,448,113 | 09/05/95 | SUZUKI et al. | | | | | |
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| *Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | | | | | | | | |

| LIST OF REFERENCÉS CITED BY APPLICANT TAKESHÍ NANLYO, et al. FILING DATE APPLICANT AL SUBB CLASS SUB FILING DATE CLASS CLASS FILING DATE FILING DATE FILING DATE FILING DATE CLASS CLASS FILING DATE FILING | Form PTO 1449 U.S. DEPARTMENT OF COMMERCE (Modified) PATENT AND TRADEMARK OFFICE | | | ATTY DOCKET NO. SERIAL NO. | | | | | |
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| AB 6,324,149 11/27/01 MIFUNE et al. | | | | DATE | NAME | CLASS | SUB CLASS | | |
| AC | | AA | 5,408,113 | 04/18/95 | KANNO et al. | | | | |
| AD | | AB | 6,324,149 | 11/27/01 | MIFUNE et al. | | | | |
| AE | | AC | 6,636,368 | 10/21/03 | OHTAKA | | | | |
| AF | | AD | 6,710,949 | 03/23/04 | OHTAKA | | | | |
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| | | - | FO | REIGN PATENT DOCUMENTS | | | | | |
| | | DOCUMENT NUMBER | DATE | COUNTRY | TRANSLATION YES NO | | | | |
| | AL | 2941952 | 06/18/1999 | JAPAN (with WO 96/41224) | | | | X | |
| | АМ | WO 96/41224 | 12/19/1996 | WIPO | | | | | |
| | AN | 3016871 | 12/24/1999 | JAPAN (with corr. WO 96/41226) | | | | × | |
| | AO | WO 96/41226 | 12/19/1996 | WIPO | | | | | |
| | AP | 6-138403 | 05/20/1994 | JAPAN (with English Abstract) | | | | X | |
| | AQ | 2000-2842 | 01/07/2000 | JAPAN (with English Abstract) | | | | X | |
| | AR | 2002-131838 | 05/09/2002 | JAPAN (with English Abstract) | | | | X | |
| | AS | 5-2973 | 01/08/1993 | JAPAN (with English Abstract) | | | | × | |
| | AT | 8-84485 | 03/26/1996 | JAPAN (with English Abstract) | | | | ^ | |
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| | AU | ARRAY FABRICATED | ON SILICON | | | | | | |
| | AV | O. SOLGAARD, et al. May 1, 1992 | Optics Letters | s, vol. 17, no. 9, pages 688-690, "DEFOR | MABLE G | RATING O | PTICAL N | /IODULA | ΓOR", |
| | L. J. HORNBECK, SPIE Critical Reviews Series, vol. 1150, pages 86-102, "DEFORMABLE-MIRROR SPATIAL LIGHT AW MODULATORS", 1989 | | | | | | | | |
| | P. F. VAN KESSEL, et al., Proceedings of the IEEE, vol. 86, no. 8, pages 1687-1704, "A MEMS-BASED PROJECTION DISPLAY", August 1998 | | | | | | | | |
| | D. S. DEWALD, Optical Engineering, vol. 39, no. 7, pages 1802-1807, "USING ZEMAX IMAGE ANALYSIS AND USER-DEFINED SURFACES FOR PROJECTION LENS DESIGN AND EVALUATION FOR DIGITAL LIGHT PROCESSING™ PROJECTION SYSTEMS", July 2000 | | | | | | | | |
| | AZ | | | 285-289, "DIGITAL MICRO-MIRROR cepts of reference AX) | Add | litional Refe | erences s | neet(s) at | tached |
| Examiner | 1 | J- | | | Date Co | nsidered | | | |
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